

Supplementary table 1. Top 100 proteins from *R. prowazekii* predicted *in silico* to encompass proteasome-derived MHC class-I-binding peptides.

Rickettsial protein	Annotated function	Predicted subcellular localization*	Proteasome / H2K ^k ranking	Number of proteasome-peptides
RP617	isoleucyl-tRNA synthetase	Cytoplasmic	1	5
RP530	branched-chain alpha-keto acid dehydrogenase subunit E2	Cytoplasmic	2	5
RP036	protein disaggregation chaperone	Cytoplasmic	3	5
RP884	ferrochelatase	Cytoplasmic	4	4
RP087	elongation factor Ts	Cytoplasmic	5	4
RP219	protease	Periplasmic	6	4
RP403	hypothetical protein RP403	Cytoplasmic	7	5
RP704	cell surface antigen (sca5)	Outer Membrane	8	4
RP626	chaperonin GroEL	Cytoplasmic	9	4
RP731	dephospho-CoA kinase	Cytoplasmic	10	5
RP014	hypothetical protein RP014	Periplasmic	11	5
RP627	co-chaperonin GroES	Cytoplasmic	12	5
RP042	cell cycle protein MESJ (mesJ)	Cytoplasmic	13	4
RP505	arabinose-5-phosphate isomerase	Cytoplasmic	14	5
RP263	hypothetical protein RP263	Cytoplasmic Membrane	15	3
RP776	DNA polymerase I	Cytoplasmic	16	4
RP203	excinuclease ABC subunit B	Cytoplasmic	17	3
RP492	pyruvate phosphate dikinase	Cytoplasmic	18	4
RP141	DNA-directed RNA polymerase subunit beta'	Cytoplasmic	19	3
RP223	hypothetical protein RP223	Cytoplasmic	20	4
RP441	hypothetical protein RP441	Cytoplasmic	21	4
RP598	transcription-repair coupling factor	Cytoplasmic	22	4
RP858	RNA polymerase sigma factor RpoD	Cytoplasmic	23	3
RP880	DNA mismatch repair protein	Cytoplasmic	24	4
RP029	recombination protein F	Cytoplasmic	25	3
RP585	preprotein translocase subunit YajC	Cytoplasmic Membrane	26	4
RP221	threonyl-tRNA synthetase	Cytoplasmic	27	4
RP667	hypothetical protein RP667	Cytoplasmic	28	5
RP006	hypothetical protein RP006	Cytoplasmic	29	4
RP665	fumarate hydratase	Cytoplasmic	30	4
RP431	hypothetical protein RP431	Cytoplasmic	31	4
RP071	transcriptional activator protein CZCR (czcR)	Cytoplasmic	32	4
RP341	hypothetical protein RP341	Cytoplasmic Membrane	33	3
RP635	DNA-directed RNA polymerase subunit alpha	Cytoplasmic	34	4

RP739	ADP,ATP carrier protein	Cytoplasmic Membrane	35	4
RP589	inorganic pyrophosphatase	Cytoplasmic	36	4
RP840	heat shock protein 90	Cytoplasmic	37	4
RP778	DNA polymerase III subunit alpha	Cytoplasmic	38	4
RP681	hypothetical protein RP681	Cytoplasmic	39	5
RP048	inner membrane protein translocase component YidC	Cytoplasmic Membrane	40	3
RP498	cell surface antigen (sca4)	Cytoplasmic	41	3
RP306	tRNA-specific 2-thiouridylase MnmA	Cytoplasmic	42	4
RP580	DNA gyrase subunit B	Cytoplasmic	43	4
RP067	DNA topoisomerase IV subunit A	Cytoplasmic	44	3
RP329	hypothetical protein RP329	Cytoplasmic Membrane	45	4
RP540	primosome assembly protein PriA	Cytoplasmic	46	4
RP200	chaperone protein HscA	Cytoplasmic	47	3
RP758	hypothetical protein RP758	Cytoplasmic	48	3
RP326	DNA topoisomerase I	Cytoplasmic	49	4
RP387	transport ATP-binding protein MsbA	Cytoplasmic Membrane	50	5
RP146	hypothetical protein RP146	Cytoplasmic	51	2
RP339	minor teichoic acids biosynthesis protein ggab (ggab)	Cytoplasmic Membrane	52	3
RP515	bifunctional 5,10-methylene-tetrahydrofolate dehydrogenase/ 5,10-methylene-tetrahydrofolate cyclohydrolase	Cytoplasmic	53	4
RP320	ATP-dependent protease ATP-binding subunit HslU	Cytoplasmic	54	3
RP848	hypothetical protein RP848	Cytoplasmic	55	4
RP572	excinuclease ABC subunit C	Cytoplasmic	56	3
RP391	hypothetical protein RP391	Periplasmic	57	4
RP228	tail-specific protease precursor (CTP)	Unknown	58	3
RP163	cell division protein FTSJ (ftsJ)	Cytoplasmic	59	4
RP822	hypothetical protein RP822	Cytoplasmic Membrane	60	4
RP849	glycyl-tRNA synthetase subunit beta	Cytoplasmic	61	4
RP864	hypothetical protein RP864	Cytoplasmic	62	4
RP367	hypothetical protein RP367	Cytoplasmic Membrane	63	4
RP246	hypothetical protein RP246	Cytoplasmic Membrane	64	4
RP768	rod shape-determining protein MreB	Cytoplasmic	65	4
RP876	lipoate-protein ligase B	Cytoplasmic	66	5
RP404	hypothetical protein RP404	Cytoplasmic	67	3
RP622	3-demethylubiquinone-9 3-methyltransferase	Cytoplasmic	68	3
RP283	monovalent cation/H+ antiporter subunit D	Cytoplasmic Membrane	69	4
RP216	cytochrome D ubiquinol oxidase subunit I (cydA)	Cytoplasmic Membrane	70	3
RP522	cytidylate kinase	Cytoplasmic	71	3
RP027	hypothetical protein RP027	Cytoplasmic	72	2
RP347	outer membrane assembly protein (asmA)	Unknown	73	3
RP841	5-aminolevulinate synthase	Cytoplasmic	74	4

RP559	hypothetical protein RP559	Unknown	75	3
RP226	hypothetical protein RP226	Unknown	76	4
RP328	hypothetical protein RP328	Unknown	77	5
RP047	hypothetical protein RP047	Cytoplasmic Membrane	78	4
RP314	alkaline protease secretion protein AprE	Cytoplasmic Membrane	79	3
RP030	hypothetical protein RP030	Cytoplasmic	80	3
RP531	translation initiation factor IF-3	Cytoplasmic	81	3
RP275	GTP-binding protein LepA	Cytoplasmic Membrane	82	3
RP174	peptidase	Periplasmic	83	3
RP863	alanine dehydrogenase PntAa	Cytoplasmic Membrane	84	3
RP734	ATP-dependent nuclease subunit A (addA)	Cytoplasmic	85	3
RP805	dihydrolipoamide dehydrogenase	Cytoplasmic	86	3
RP529	peptide chain release factor 1	Cytoplasmic	87	3
RP120	hypothetical protein RP120	Unknown	88	3
RP170	acriflavin resistance protein D	Cytoplasmic Membrane	89	3
RP718	lipid A biosynthesis lauroyl acyltransferase	Cytoplasmic	90	3
RP763	acyl carrier protein	Cytoplasmic	91	5
RP512	ribonucleotide-diphosphate reductase subunit beta	Cytoplasmic	92	3
RP539	delta-aminolevulinic acid dehydratase	Cytoplasmic	93	4
RP753	aspartate kinase	Unknown	94	3
RP439	hypothetical protein RP439	Unknown	95	4
RP556	tyrosyl-tRNA synthetase	Cytoplasmic	96	4
RP804	F0F1 ATP synthase subunit delta	Cytoplasmic	97	3
RP300	outer membrane antigenic lipoprotein B precursor (nlpD)	Unknown	98	3
RP179	dihydrolipoamide succinyltransferase	Cytoplasmic	99	3
RP692	ATP-dependent protease ATP-binding subunit ClpX	Cytoplasmic	100	3

* Subcellular localization was predicted using PSORTb 3.0.2 (<http://www.psort.org/psortb/>)